AMENDMENT(S) TO THE DRAWINGS

Please amend Figs. 1 and 4 as indicated in red on the attached Annotated Sheets enclosed in the Submitted Drawings section of this amendment. Replacement Sheets presenting replacement Figs. 1 and 4 which incorporate the desired changes are also enclosed in the Submitted Drawings section of this Amendment. The changes to the drawings are described in the Remarks section, below.

REMARKS

Claims 1-45 are pending in the present patent application. Claims 1-7 stand rejected; and claims 8-45 have been withdrawn from consideration. This application continues to include claims 1-45.

Applicants hereby confirm the election of group 1, claims 1-7.

Claim 5 was objected to due to informalities. In particular, it is asserted that it is not clear whether "said signature color data lookup table" refers to a table within the "plurality of signature color data lookup tables" of claim 4 or the "signature color data lookup table" of claim 1.

Applicants respectfully submit that "said signature color data lookup table," as recited in claim 5, has antecedent basis in claim 1 with the recitation of a "signature color data lookup table," and that there is no antecedent basis for "said signature color data lookup table" in claim 4. Although claim 4 recites a "plurality of signature color data lookup tables," this phrase is not identical with "signature color data lookup table," and thus, Applicants respectfully submit that it is clear that "said signature color data lookup table," as recited in claim 5, refers back to the signature color data lookup table recited in claim 1.

In addition, Applicants point out that in claim 4, color class tables are generated from the plurality of signature color data lookup tables after the latter are subdivided into classes of signature color data lookup tables based on a color similarity. It is a corresponding color class table that serves as the signature color data lookup table, which logically ties the signature color data lookup table, as recited in claim 5, back to the signature color data lookup table recited in claim 1.

Accordingly, Applicants respectfully submit that it is clear that "said signature color data lookup table," as recited in claim 5, refers to the "signature color data lookup table" of claim 1.

Applicants thus respectfully request the Examiner to withdraw the objection to claim 5.

Fig. 1 was objected to because both reference characters 12 and 21 appear to be pointing to the imaging apparatus. As indicated on the sheet labeled "Annotated Sheet" for Fig. 1, Applicants have added a note, in keeping with the Examiner's suggestion, which indicates that imaging object 21 may be printing cartridge 22, scanner 24 and/or substrate 44. Accordingly, Applicants respectfully request that the objection to Fig. 1 be withdrawn.

Fig. 4 was objected to because lookup table 70 indicates a color value L3, whereas lookup table 72 indicates a color value L2. As indicated on the sheet labeled "Annotated Sheet" for Fig. 4, Applicants have changed the color value in lookup table 72 to be L3 in keeping with the Examiner's suggestion. Accordingly, Applicants respectfully request that the objection to Fig. 1 be withdrawn.

The Examiner has objected to the specification because of informalities. As set forth in the section entitled "Amendments to the Specification," beginning on page 2 of the present Amendment, Applicants have amended the specification in accordance with the Examiner's suggestions, and accordingly respectfully request the Examiner to withdraw the objection to the specification.

Claims 1-3 were rejected under 35 USC 102(b) as being anticipated by Bowers, US Patent Application Publication No. 2002/0126301 A1 (hereinafter, Bowers). Applicants respectfully request reconsideration of the rejection of claims 1-3 in view of the following.

Bowers discloses a process for determining the color calibration for a selected printer and selected substrate (paragraph 0015). Color patches are printed from a printer on a print substrate, and measured using a spectrophotometer or a calorimeter (paragraphs 0015, 0016). A lookup table (LUT) may optionally be created, which stores a difference value or an adjusted value between the measured predetermined input values and the measured color value, and the calibration data may be either or both of the raw data and the adjusted value (paragraph 0017). A pre-existing color LUT may be stored with the controller of the printer, and if not, one may be generated (paragraph 0018). The pre-existing color LUT may be replaced, modified or updated with a new color LUT, or an adjustment value may be added to the pre-existing color LUT (paragraph 0018). If the calibration data is raw data, the printer will have a LUT generated, and if the calibration data is a color LUT with adjusted color values, the printer will adjust the output values (paragraph 0019).

Applicants believe that claims 1-3 patentably define the invention over Bowers for at least the reasons that follow.

Claim 1 is directed to a method for correcting color shift in an imaging system having an imaging object, and having a standard color conversion lookup table associated with said imaging object.

Claim 1 recites, in part, combining said signature color data lookup table with said standard color conversion lookup table to generate a composite color conversion lookup table for use with said imaging object.

A signature color data lookup table is a table containing signature colors of an object, which (cartridge, scanner, substrate, etc.) are a small set of colors that can be used to characterize the object, or to classify the object into a class of objects with similar color characteristics (see Applicants' specification from page 7, line 32 to page 8, line 4), and is much smaller than standard color conversion lookup table 62, allowing signature color data lookup table 64 to be stored in inexpensive, low capacity memory systems, and allowing for fast processing, as well as fast transference of color shift correction data between computer systems (see Applicants' specification at page 8, line 30-33).

Thus, with Applicants' invention, a small set of colors that can be used to characterize the object are in a signature color data lookup table, which is combined with a standard color conversion lookup table to generate a composite color conversion lookup table.

In contrast to a signature color data lookup table, Bowers discloses using the calibration data to generate a the color conversion lookup table (paragraph 0019), which thus means that the Bowers calibration data does not pertain to the signature colors of the cartridge, but the full calibration data, which requires much more memory space to store.

In addition, Bowers discloses in paragraph 0019 that the *printer generates the color conversion lookup table directly from the raw calibration data*, rather than combining the raw calibration table with the pre-existing LUT to generate a composite color conversion lookup table, as recited in claim 1.

Bowers also discloses that if the calibration data comprises a color LUT with adjusted color values, the printer will immediately begin the calibration process of adjusting the output color value to be equal to the input color value.

Thus, in this latter Bowers embodiment, the calibration data pertains to adjusted color values, which does not disclose, teach or suggest the signature colors or a signature color data lookup table, but rather, final adjusted color values for use in color conversion.

It is noted that the signature colors, and hence, the signature color data lookup table *as defined in Applicants' specification* do not pertain to *adjusted color values*, but rather, as set forth above, is a small set of colors that can be used to characterize the object, or to classify the object into a class of objects with similar color characteristics, and which is much smaller than the standard color conversion lookup table, allowing the signature color data lookup table to be stored in inexpensive, low capacity memory systems, and allowing for fast processing, as well as fast transference of color shift correction data between computer systems.

In contrast, in the latter Bowers embodiment, the adjusted color values pertain to the full LUT used for color conversion, not a small set of colors that can be used to characterize the Bowers device.

In addition, with Applicants' invention of claim 1, the signature color data lookup table is then combined with the standard color conversion lookup table to generate a composite color conversion lookup table for use with the imaging object, in contrast to the latter Bowers embodiment, wherein the color LUT already employs adjusted color values, which is hence *not* combined with a standard color conversion lookup table.

Accordingly, Bowers does not disclose, teach or suggest combining a signature color data lookup table with a standard color conversion lookup table to generate a composite color conversion lookup table for use with the imaging object, as recited in claim 1. Bowers thus does not disclose, teach, or suggest the subject matter of claim 1.

Claim 1 is thus believed allowable in its present form.

Claims 2 and 3 are believed allowable due to their dependence, directly or indirectly, on otherwise allowable base claim 1. In addition, claims 2 and 3 further and patentably define the invention over Bowers.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 1-3 are in condition for allowance in their present forms, and thus respectfully request that the rejection of claims 1-3 under 35 U.S.C. 102(b) be withdrawn.

Claims 4-7 were rejected under 35 USC 103(a) as being unpatentable over Bowers in view of Chu, et al., US Patent Application Publication No. 2002/0149785 A1 (hereinafter, Chu). Applicants respectfully request reconsideration of the rejection of claims 4-7 in view of the following.

Chu discloses that an ink cartridge manufacturer characterizes a color ink cartridge 124 by curve fitting density data, and that curve fitted density data is stored in association with a cartridge identifier 140 on a website 118 (paragraph 0021). If the website determines that the cartridge identifier 132 from the user computer system 100 matches the cartridge identifier 140 from the factor computer system 136, then the curve fitted density data 120 associated with the cartridge identifier 140 is transmitted over the Internet 122 to the user computer system 100 (paragraph 0023). Website 118 can be used to maintain multiple sets of ink cartridge characterization data and associated cartridge identifier data for each model of ink cartridge so that ink cartridge characterization data for any ink cartridge can be retrieved over the Internet (paragraph 0024).

Applicants believe that claims 4-7 patentably define the invention over Bowers and Chu, taken alone or in combination, for at least the reasons that follow.

Claim 4 is directed to the method of claim 2, wherein the generating step includes generating a plurality of signature color data lookup tables for a plurality of imaging objects; subdividing the plurality of signature color data lookup tables into classes of signature color data lookup tables based on a color similarity; generating a color class table for each class of signature color data lookup tables; assigning a class code to each color class table; storing each color class table in at least one of a first memory associated with the imaging object, a second memory associated with the imaging system, and an offsite memory, for access by the imaging system; and storing the class code in at least one of the first memory associated with the imaging object, the second memory associated with the imaging system, and the offsite memory, for access by the imaging system.

Bowers does not disclose, teach or suggest the subject matter of claim 4, nor is it so asserted.

In addition, Applicants respectfully submit that Chu does not disclose, teach or suggest the subject matter of claim 4.

For example, Chu discloses that if website 118 determines that the cartridge identifier 132 from the user computer system 100 matches the cartridge identifier 140 from the factor computer system 136, then the curve fitted density data 120 associated with the cartridge identifier 140 is transmitted over the Internet 122 to the user computer system 100 (paragraph 0023).

Although Chu discloses that website 118 can be used to maintain multiple sets of ink cartridge characterization data and associated cartridge identifier data for each model of ink cartridge so that ink cartridge characterization data for any ink cartridge can be retrieved over the Internet (paragraph 0024), this does not in any way imply or otherwise disclose, teach or suggest classes of signature color data lookup tables based on a color similarity, much less generating a color class table for each class of signature color data lookup tables, as recited in claim 4.

In addition, Chu does not disclose, teach or suggest assigning a class code to each color class table, but rather, stores individual ink cartridge identifiers for ink cartridges with corresponding characterization data without establishing classes of characterization data and class codes corresponding thereto. Chu simply does not disclose, teach or suggest the aspect of claim 4 pertaining to classes, such as for classifying an ink cartridge into classes of ink cartridges with similar color characteristics (see Applicants' specification from page 7, line 32 to page 8, line 1), such as what the signature color data is used for in the embodiment of claim 4.

Accordingly, Bowers and Chu, taken alone or in combination, do not disclose, teach or suggest the subject matter of claim 4.

Claims 5-7 are believed allowable due to their dependence on otherwise allowable intervening claim 4. In addition, claims 5-7 further and patentably define the invention over Bowers and Chu, taken alone or in combination.

Claims 4-7 are also believed allowable due to their dependence on otherwise allowable base claim 1, since Bowers does not disclose, teach or suggest the subject matter of claim 1, as set forth above, and since Chu does not make up for the deficiency of Bowers as applied to claim 1, nor is it so asserted.

Accordingly, for at least the reasons set forth above, Applicants believe that claims 4-7 are in condition for allowance in their present forms, and thus respectfully request that the rejection of claims 4-7 under 35 U.S.C. 103(a) be withdrawn.

For the foregoing reasons, Applicants submit that the pending claims are definite and do particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Moreover, Applicants submit that no combination of the cited references teaches, discloses or suggests the subject matter of the amended claims. The pending claims are therefore in condition for allowance, and Applicants respectfully request withdrawal of all rejections and allowance of the claims.

In the event Applicants have overlooked the need for an extension of time, an additional extension of time, payment of fee, or additional payment of fee, Applicants hereby conditionally petition therefor and authorize that any charges be made to Deposit Account No. 20-0095, TAYLOR & AUST, P.C.

Should any question concerning any of the foregoing arise, the Examiner is invited to telephone the undersigned at (317) 894-0801.

Respectfully submitted,

/ Paul C. Gosnell, Reg. No. 46735/

Paul C. Gosnell
Attorney for Applicants

RKA14/ts

TAYLOR & AUST, P.C.
12029 E. Washington Street
Indianapolis, IN 46229
Telephone: 317-894-0801
Facsimile: 317-894-0803

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SUBMITTED DRAWINGS

Drawings that are being submitted herewith include Annotated Sheets of Figs. 1 and 4, and Replacement Sheets 1 and 4, as indicated on the pages that follow.

Title: COLOR CORRECTION METHOD FOR AN IMAGING SYSTEM
Inventors: Deer, et al.
Attorney Docket No. 2003-0269.02
Serial No. 10/678,993
ANNOTATED SHEET

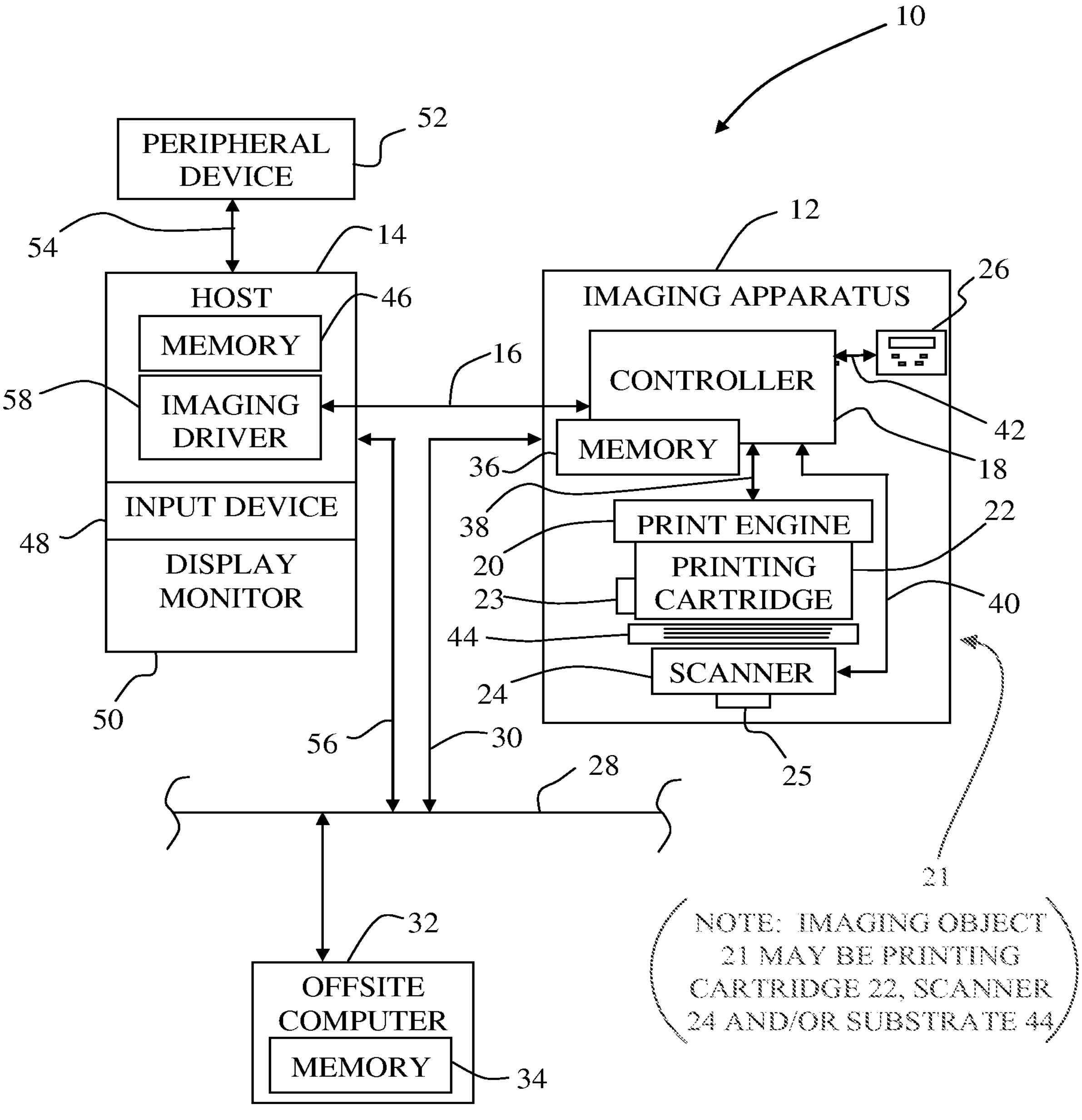
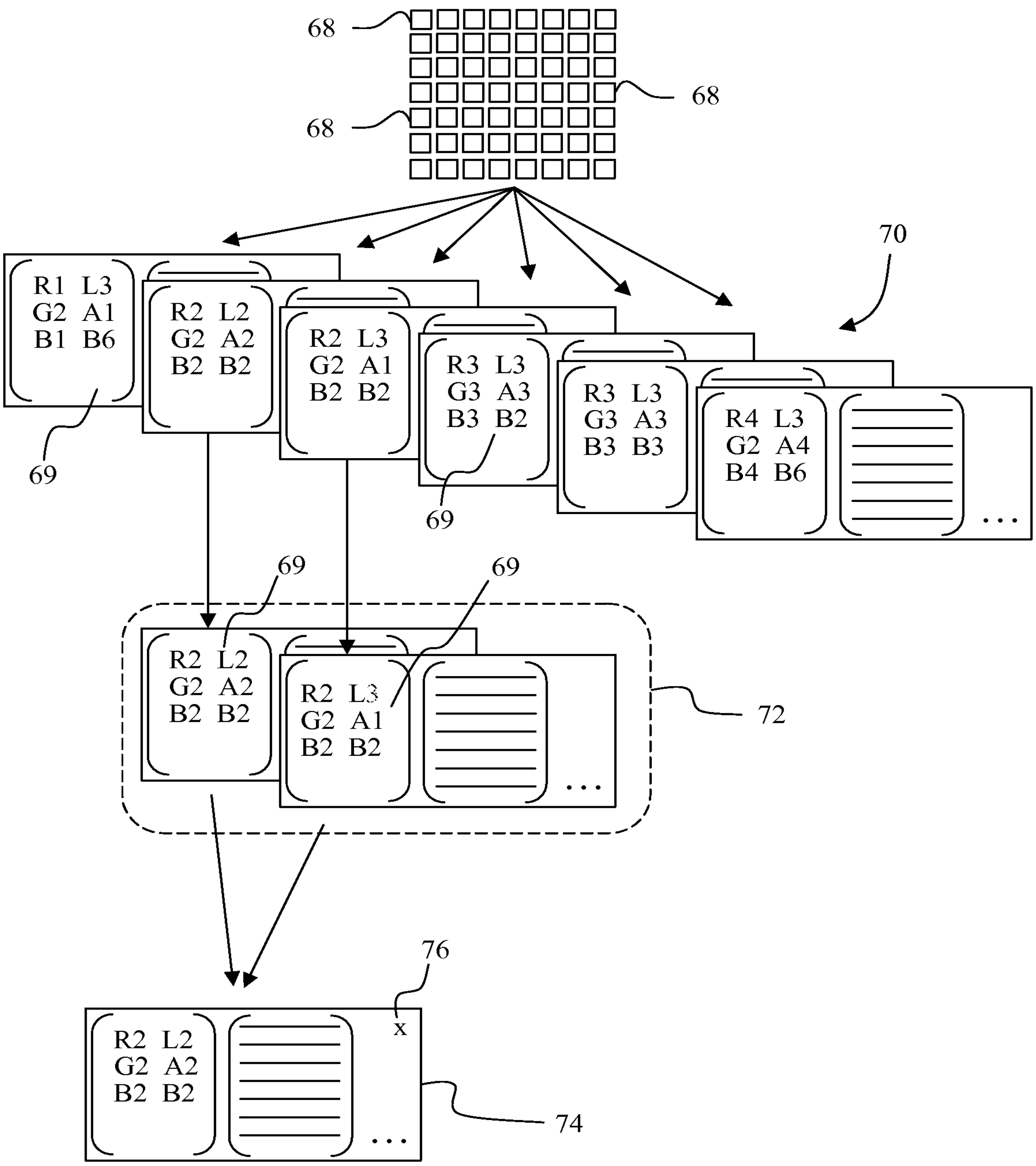


Fig. 1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R3 L3
G3 A3
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G3 A3
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B2 B2
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74

Fig. 4